Physics 2205 19 October, 1999
Quiz 7—Form A

1. Paris and Kim are playing together on a see-saw. Paris has a mass of 30 kg and is 1.2 m from the pivot. If Kim has a mass of 20 kg, how far from the pivot is she?

A) 0.8 m
B) 1.2 m
C) 1.8 m
D) none of the above

2. At a rate of 3.0 rad/s^2, a bicycle wheel takes 5.0 seconds to slow to a stop. What was its initial angular velocity?

A) 0.60 rad/s
B) 7.5 rad/s
C) 15 rad/s
D) 94 rad/s

Some useful equations:

$\theta = (\frac{1}{2})\,\alpha t^2 + \omega_o t + \theta_o$

$\omega = 2\,\pi\,f$

$\omega = \alpha t + \omega_o$

$\tau = r\,F\sin\theta$

$\omega^2 = \omega_o^2 + 2\alpha(\theta - \theta_o)$

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Quiz 7—Form B

1. A long-playing record spins at a frequency of 33 1/3 rpm. How many revolutions does it turn in 1 second?

A) 0.56
B) 1.8
C) 3.5
D) none of the above

2. A 150-kg crate rests 0.5 m from the right end of a table which is 1.5 m long. How much force do the legs on the right-hand side exert?

A) 0 N
B) 330 N
C) 650 N
D) 980 N

Some useful equations:

$\theta = (\frac{1}{2})\,\alpha t^2 + \omega_o t + \theta_o$

$\omega = 2\,\pi\,f$

$\omega = \alpha t + \omega_o$

$\tau = r\,F \sin\theta$

$\omega^2 = \omega_o^2 + 2\alpha(\theta - \theta_o)$